

REMARKS

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

By this amendment, claims 98, 100, 102, 104, 106, and 108 have been amended. Claims 98, 100, 102, 104, 106, and 108 are pending.

Claims 98-108 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura (US 5,168,509)(hereafter referred to as Nakamura). This rejection is traversed for the following reasons.

Claims 98, 100, 102, 104, 106, and 108 are directed to apparatuses and methods for transmitting and/or receiving an n-level PSK modulated signal and an n-level QAM modulated signal. Each of claims 98, 100, 102, 104, 106, and 108 includes recitations directed to selecting a value of n from a plurality of values of n, and each recites that the transmission power of the n-level PSK modulated signal or the n-level QAM modulated signal is determined according to or is relative to information representing the selected value of n.

In Fig. 108(b) and page 83, lines 14-17 of the present application it is disclosed that the transmission power through subchannel A is greater than that through subchannel B. Also, according to the disclosure on page 23, lines 6-9 the data of subchannel A corresponds to the first data stream (D1), and the data of subchannel B corresponds to the second data stream (D2).

In the first embodiment, as disclosed on page 40, line 22 to page 41, line 3, the first data stream (D1: subchannel A) is demodulated by QPSK demodulation with 4 signal points and the second data stream (D2: subchannel B) is demodulated by QAM demodulation with 16 signal points. Thus, the modulated first data stream (QPSK) is demodulated with fewer signal points than the signal points used for demodulating the modulated second data stream (16 QAM).

Therefore, even when the transmission passage distance for the modulated first data stream (QPSK) becomes longer than that offered for the modulated second data stream (16QAM), the quality (such as CN) of the modulated first data stream (QPSK) is still maintained at a high level. Therefore, the transmission power for the modulated first data stream (QPSK) is set greater than that for the modulated second data stream (16QAM), resulting in wider service area.

The modulated second data stream (16QAM), although having a lower reliability in terms of error tolerance, has a higher data transmission rate with lower transmission power. Thus, the modulated second data stream (16QAM) is suitable for local area service.

According to the Office Action, the Examiner takes a position that selection of a modulation level is obvious from the Nakamura reference. Applicants again traverse this assertion. According to Nakamura, particularly in column 1, lines 34-35, modulation systems with different values are shown. However, Nakamura fails to disclose or suggest the selection of a value of n from a plurality of values of n of the n -level PSK modulated signal or the n -level QAM modulated signal. According to Nakamura, an example of 64 QAM modulation is shown in Fig. 4 as one embodiment, and an example of 256 QAM modulation is shown in Fig. 12 as another embodiment. However, there is no embodiment which presents a selection of one value from among different values for a modulator in one apparatus. Also, in Nakamura, there is no disclosure of a transmission apparatus that can select one modulation system among a plurality of modulation systems. Because of this absence of such an embodiment, it would not have been obvious to a person having ordinary skill in the art at the time the present invention was made to modify the system of Nakamura to provide a mechanism such as that of the present invention to select a value from among different values for a modulator in one apparatus.

Furthermore, Nakamura fails to disclose that the transmission power is determined according to information representing the selected value of n .

In view of the above amendments and remarks, it is submitted that claims 98, 100, 102, 104, 106, and 108 are allowable over the prior art of record and that the present application is in condition for allowance. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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